Summary: Assessment of U.S. Technological Competitiveness

This chapter brings together a collection of indicators that contrast and compare national technological competitiveness across a broad range of important technological areas. Based on the various indicators of technology development and market competitiveness examined, the United States continues to lead or be among the leaders in all major technology areas. Advancements in information technologies (computers and telecommunications products) continue to influence new technology development and to dominate technical exchanges between the United States and its trading partners.

Asia's status as both a consumer and developer of high-technology products has been enhanced by the technological development taking place in the newly industrialized Asian economies—in particular, South Korea and Taiwan—and in emerging and transitioning economies, such as China, Malaysia, and the Philippines. Based on the trends presented in this chapter in patenting, in high-technology production, and purchases of technological know-how, Asia's influence in the marketplace seems likely to expand in the future as other technologically emerging Asian nations join Japan as both technology producers and consumers.

The current strong position of the United States as the world's leading producer of high-technology products reflects its success both in supplying a large home-based market, as well as in serving foreign markets. In addition to the Nation's long commitment to investments in S&T, this success in the international marketplace may in part be a function of scale effects derived from serving this large, demanding domestic market. It may be further aided by the U.S. market's openness to foreign competition. In the years ahead, these same market dynamics may also benefit a more unified Europe and Latin America and a rapidly developing Asia and complement their investments in S&T.

Beyond these challenges, the rapid technological development taking place around the world also offers new opportunities for the U.S. S&T enterprise. For U.S. business, rising exports of high-technology products and services to expanding economies in Asia, Europe, and Latin America are already apparent in the U.S. trade data and should grow in the years ahead. For research, the same conditions that create new business opportunities—the growing global technological capacity and the relaxation of restrictions on international business—can lead to new opportunities for the U.S. S&T research community. The many new, well-funded institutes and technology-oriented universities surfacing in many technologically emerging areas of the world will further scientific and technological knowledge and lead to new collaborations between U.S. and foreign researchers.

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